IN THE CLAIMS

This Listing of Claims replaces all prior Listings and versions of claims in the aboveidentified application.

Listing of Claims

1-66. (Cancelled)

- 67. (New) A fusion protein comprising a soluble protein joined without an intervening peptide linker to an immunoglobulin (Ig) domain that does not contain a variable region, wherein the soluble protein is selected from the group consisting of a growth factor, a cytokine that is not interleukin-10 (IL-10), and an active variant of said growth factor or said cytokine that is not IL-10.
- 68. (New) The fusion protein of Claim 67, wherein the Ig domain is selected from the group consisting of IgG-Fc, IgG-C_H and IgG-C_L.
- 69. (New) The fusion protein of Claim 67, wherein the soluble protein is a member of the growth hormone (GH) supergene family.
- 70. (New) The fusion protein of Claim 67, wherein the soluble protein is erythropoietin (EPO), and wherein the fusion protein has an EC_{50} of less than about 1000 ng/ml in an EPO-dependent *in vitro* bioassay using a cell line that proliferates in response to EPO
- 71. (Withdrawn-New) The fusion protein of Claim 67, wherein the soluble protein is granulocyte-colony stimulating factor (G-CSF).
- 72. (Withdrawn-New) The fusion protein of claim 71, wherein the fusion protein has an EC_{50} of less than about 300 ng/ml in a G-CSF-dependent cell assay using a cell line that proliferates in response to G-CSF.
- 73. (Withdrawn-New) The fusion protein of claim 71, wherein serine is substituted for cysteine-17 of G-CSF.
- 74. (Withdrawn-New) The fusion protein of Claim 67, wherein the soluble protein is growth hormone (GH).
 - 75. (Withdrawn-New) The fusion protein of Claim 67, wherein the soluble

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protein is selected from the group consisting of granulocyte-macrophage colony stimulating factor (GM-CSF), interleukin-11 (IL-11), thrombopoietin (TPO), stem cell factor (SCF) and flt3 ligand.

- 76. (Withdrawn-New) The fusion protein of Claim 67, wherein the soluble protein is selected from the group consisting of alpha interferon, beta interferon, gamma interferon, omega interferon and tau interferon.
- 77. (New) A pharmaceutical composition comprising the fusion protein of Claim 67 in a pharmaceutically acceptable carrier.
- 78. (New) A composition comprising the fusion protein of Claim 67, wherein said fusion protein is dimeric and wherein said composition is essentially free of monomeric fusion protein.
- 79. (New) The composition of Claim 78, wherein the soluble protein is selected from the group consisting of G-CSF, EPO and interleukin-11.
 - 80. (New) A nucleic acid encoding the fusion protein of Claim 67.
- 81. (New) A host cell transfected or transformed with the nucleic acid of claim 80, enabling the host cell to express the fusion protein.
 - 82. (New) The host cell of claim 81, wherein the host cell is a eukaryotic cell.
- 83. (New) The host cell of claim 82, wherein the eukaryotic cell is a mammalian cell.
 - 84. (New) A method of producing a fusion protein of Claim 67, comprising:
 - a) transfecting or transforming a host cell with an expression vector comprising at least one nucleic acid encoding the fusion protein of Claim 67;
 - b) culturing the host cell under conditions effective to express said fusion protein; and
 - c) harvesting the fusion protein expressed by the host cell.
 - 85. (New) A method of purifying the fusion protein of Claim 67, comprising:
 - a) obtaining a composition comprising the fusion protein; and
 - b) isolating the fusion protein from contaminants by column

chromatography.

- 86. (New) The method of claim 85, wherein the fusion protein is isolated from contaminants by size-exclusion chromatography.
- 87. (Withdrawn-New) A method of treating a condition treatable with a member of the Growth Hormone (GH) supergene family, comprising administering an effective amount of the fusion protein of Claim 67 to a patient in need thereof.
- 88. (Withdrawn-New) The method of claim 87, wherein the fusion protein is a G-CSF-Immunoglobulin fusion protein and wherein the condition is a deficiency of blood neutrophils.
- 89. (Withdrawn-New) The method of claim 87, wherein the fusion protein is an EPO-Immunoglobulin fusion protein and wherein the condition is a deficient hematocrit.
- 90. (New) A fusion protein comprising a soluble protein joined at its carboxy-terminus by a peptide linker that consists of a mixture of between 2 and 7 amino acid residues selected from the group consisting of: glycine and serine, to the amino terminus of an immunoglobulin domain that does not contain a variable region, wherein the soluble protein is selected from the group consisting of a growth factor, a cytokine that is not interleukin-10 (IL-10), a cytokine that is not an interferon, and an active variant of any of said growth factor, cytokine that is not IL-10, or cytokine that is not an interferon.
- 91. (New) The fusion protein of Claim 90, wherein the Ig domain is selected from the group consisting of IgG-Fc, IgG-C_H and IgG-C_L.
- 92. (New) The fusion protein of Claim 90, wherein the peptide linker consists of a mixture of 2, 4 or 7 amino acid residues selected from the group consisting of glycine and serine.
 - 93. (New) The fusion protein of claim 90, wherein the peptide linker is SerGly.
- 94. (New) The fusion protein of claim 90, wherein the peptide linker is SerGlyGlySer (SEQ ID NO:1) or Ser(GlyGlySer), (SEQ ID NO:3).
- 95. (New) The fusion protein of Claim 90, wherein the soluble protein is a member of the growth hormone (GH) supergene family.

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- 96. (New) The fusion protein of Claim 90, wherein the soluble protein is erythropoietin (EPO), and wherein the fusion protein has an EC₅₀ of less than about 1000 ng/ml in an EPO-dependent *in vitro* bioassay using a cell line that proliferates in response to EPO.
- 97. (Withdrawn-New) The fusion protein of Claim 90, wherein the soluble protein is granulocyte-colony stimulating factor (G-CSF).
- 98. (Withdrawn-New) The fusion protein of Claim 96, wherein the fusion protein has an EC_{50} of less than about 300 ng/ml in a G-CSF-dependent cell assay using a cell line that proliferates in response to G-CSF.
- 99. (Withdrawn-New) The fusion protein of Claim 96, wherein serine is substituted for cysteine-17 of G-CSF.
- 100. (Withdrawn-New) The fusion protein of Claim 90, wherein the soluble protein is growth hormone (GH).
- 101. (Withdrawn-New) The fusion protein of Claim 90, wherein the soluble protein is selected from the group consisting of granulocyte-macrophage colony stimulating factor (GM-CSF), interleukin-11 (IL-11), thrombopoietin (TPO), stem cell factor (SCF) and flt3 ligand.
- 102. (New) A composition comprising the fusion protein of Claim 90, wherein said fusion protein is dimeric and wherein said composition is essentially free of monomeric fusion protein.
- 103. (New) The composition of claim 102, wherein the soluble protein is selected from the group consisting of G-CSF, EPO and interleukin-11.
 - 104. (New) A method of producing a fusion protein of Claim 90, comprising:
 - a) transfecting or transforming a host cell with an expression vector comprising at least one nucleic acid encoding the fusion protein of Claim 90;
 - b) culturing the host cell under conditions effective to express the fusion protein; and
 - c) harvesting the fusion protein expressed by the host cell.

- 105. (New) The method of Claim 104, further comprising purifying dimeric fusion protein from monomeric fusion protein.
- 106. (New) A homomultimeric fusion protein comprising two or more copies of a member of the Growth Hormone (GH) supergene family joined without an intervening peptide linker.
- 107. (Withdrawn-New) The homomultimeric fusion protein of Claim 106, wherein the member of the GH supergene family is granulocyte-colony stimulating factor (G-CSF).
- 108. (Withdrawn-New) The homomultimeric fusion protein of claim 107, wherein the homomultimeric fusion protein is a dimeric G-CSF fusion protein.
- 109. (New) The homomultimeric fusion protein of Claim 106, wherein the member of the GH supergene family is EPO.
- 110. (New) The homomultimeric fusion protein of Claim 109, wherein the multimeric fusion protein is a dimeric EPO fusion protein.
- 111. (Withdrawn-New) The homomultimeric fusion protein of Claim 106, wherein the member of the GH supergene family is selected from the group consisting of: growth hormone, alpha interferon, beta interferon, gamma interferon, GM-CSF, IL-11, TPO, SCF, and Flt3 ligand.
- 112. (New) A homomultimeric fusion protein, comprising two or more copies of erythropoietin joined by at least one peptide linker that consists of a mixture of between 2 and 7 amino acid residues selected from the group consisting of: glycine and serine.
- 113. (New) The homomultimeric fusion protein of Claim 112, wherein the multimeric fusion protein is a dimeric EPO fusion protein.
- 114. (New) The homomultimeric fusion protein of Claim 112, wherein the peptide linker consists of a mixture of 2, 4 or 7 amino acid residues selected from the group consisting of glycine and serine.
 - 115. (New) The fusion protein of Claim 112, wherein the peptide linker is SerGly.
- 116. (New) A homomultimeric fusion protein comprising two or more copies of a member of the Growth Hormone (GH) supergene family joined by at least one peptide

linker that consists of a mixture of between 2 and 7 amino acid residues selected from the group consisting of: glycine and serine, wherein the member of the GH supergene family is selected from the group consisting of: erythropoietin, growth hormone, prolactin, placental lactogen, thrombopoietin (TPO), interleukin(IL)-2, interleukin-3, interleukin-4, interleukin-5, interleukin-6, interleukin-7, interleukin-9, interleukin-10, interleukin-11, interleukin-12 (p35 subunit), interleukin-13, interleukin-15, oncostatin M, ciliary neurotrophic factor, leukemia inhibitory factor, alpha interferon, beta interferon, gamma interferon, omega interferon, tau interferon, granulocyte-colony stimulating factor (G-CSF), granulocyte-macrophage colony stimulating factor (GM-CSF), cardiotrophin-1, macrophage colony stimulating factor, Stem Cell Factor and flt-3 ligand.

- 117. (New) The homomultimeric fusion protein of Claim 116, wherein the peptide linker consists of a mixture of 2, 4 or 7 amino acid residues selected from the group consisting of: glycine and serine.
 - 118. (New) The fusion protein of Claim 116, wherein the peptide linker is SerGly.
- 119. (Withdrawn-New) The homomultimeric fusion protein of Claim 116, wherein the member of the GH supergene family is granulocyte-colony stimulating factor (G-CSF).
- 120. (Withdrawn-New) The homomultimeric fusion protein of Claim 119, wherein the homomultimeric fusion protein is a dimeric G-CSF fusion protein.
- 121. (Withdrawn-New) The homomultimeric fusion protein of Claim 116, wherein the member of the GH supergene family is selected from the group consisting of: growth hormone, alpha interferon, beta interferon, gamma interferon, GM-CSF, IL-11, TPO, SCF, and Flt3 ligand.
- 122. (New) A multimeric fusion protein comprising two or more different members of the Growth Hormone supergene family joined by at least one peptide linker that consists of a mixture of between 2 and 7 amino acid residues selected from the group consisting of: glycine and serine, wherein the members of the Growth Hormone supergene family are selected from the group consisting of growth hormone, prolactin, placental lactogen, erythropoietin (EPO), thrombopoietin (TPO), interleukin(IL)-2, interleukin-4,

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interleukin-5, interleukin-6, interleukin-7, interleukin-9, interleukin-10, interleukin-11, interleukin-12 (p35 subunit), interleukin-13, interleukin-15, oncostatin M, ciliary neurotrophic factor, leukemia inhibitory factor, alpha interferon, beta interferon, gamma interferon, omega interferon, tau interferon, granulocyte-colony stimulating factor (G-CSF), cardiotrophin-1, macrophage colony stimulating factor, Stem Cell Factor and flt-3 ligand.

- 123. (New) The fusion protein of Claim 122, wherein the peptide linker consists of 2, 4 or 7 amino acid residues selected from the group consisting of glycine and serine.
 - 124. (New) The fusion protein of Claim 122, wherein the peptide linker is SerGly.